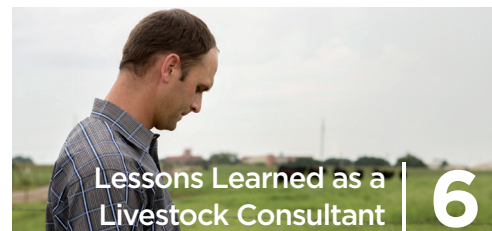


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AG NEWS & VIEWS

AG SERVICES

Time to Collect Pecan Leaf Samples

by Amanda Early, ag services and resources assistant | aaearly@noble.org



Over the years, people have written songs and poetry inspired by the green leaves of summer. To pecan producers, the appearance of those green leaves should inspire more than just poetry; they should

inspire growers to get out and take leaf samples from the trees.

Leaf sampling is a vital tool a grower can use in identifying the nutrients needed for the orchard. July is the standard time to collect leaf samples. During this time of the year, nutrients are more balanced, and standards for the nutrient concentrations have been well-documented.

Sometimes, I am asked by cooperators what a leaf sample will tell them that a soil sample can't. The answer: although a

soil sample can help identify the nutrients available in the soil, it cannot identify what nutrients are being taken up by the trees. In fact, there is no direct correlation with soil samples and leaf (tissue) samples. That is why taking leaf samples is critical for pecan management. A leaf sample can accurately pinpoint the nutrient status of trees in the orchard. Also, if you have a problem tree, a leaf sample can assist in identifying potential nutrient deficiencies and assist a grower in improving the health and overall production of that tree.

Pecan producers should consider leaf sampling a vital task in maintaining the overall health of their orchard and should make sure it is done on a yearly basis to consistently meet the trees' nutrient needs. It can also be a cost savings tool. Through a consistent leaf sampling routine, producers can fine-tune their fertilizer program and potentially realize a cost savings.

Before you start collecting samples, it is important to identify how you plan to

manage your orchard. If you are going to have consistent management practices across the orchard, taking a random sample across the orchard is adequate. If you are willing to change the fertilizer management plan throughout the orchard, collecting multiple samples throughout the orchard is ideal but be sure to keep track of the areas you sample. To get an idea of overall orchard health, it is important to collect from multiple trees. However, if you have certain problem trees, you could collect just from those trees separately to get an idea of what is needed to correct any potential deficiencies.

Beginning and maintaining a testing regimen is an important step in establishing an efficient fertilization program, which can maximize productivity while saving money by pinpointing specific nutrient needs. So, when those green leaves start blowing in the summer breeze, be sure to start sending in leaf samples.

How to submit your leaf samples, page 2

How-to Guide for Submitting Your Pecan Leaf Samples

Before you start collecting samples, it is important to identify how you plan to manage your orchard.

Step 1: Collect at least 100 middle pairs of leaflets from the middle leaf of the current growth. Avoid leaflets that show damage by insects or disease, from suckers, or water sprouts.

Step 2: Collect samples in a paper sack. Once samples have been collected, wash leaflets in tap water for less than one minute. This will help to remove any spray residue or dirt.

Step 3: Spread your leaflets out to air dry until they can easily crumbled. Once samples are dry, place them in a paper bag for transporting. Do not send wet leaves or use plastic bags. You want to avoid any excess moisture.

Step 4: Be sure to completely identify each sample that is sent by including the variety (improved or native) and age of the trees. Also, be sure to specify if you are sending samples from problem trees or deteriorating areas in your orchard.



Remember, it is important to collect the required amount of pairs. If you don't collect enough, the lab will not have the appropriate amount to run the analysis. Also, do not choose leaves on the interior of the tree.



Once we receive your samples, they are sent for analysis by Servi-Tech Labs in Amarillo, Texas. The cost per sample is \$28.85. Once the analysis is complete, one of our consultants will review the results and provide recommendations.



Samples can be brought in person to the Noble Research Institute or can be mailed to the following address:

Noble Research Institute, LLC
Attn: Ag Testing
2510 Sam Noble Pkwy
Ardmore, OK 73401



Watch a step-by-step video on how to collect pecan leaf samples at bit.ly/pecan-leaf-sampling

Pecan facts

72 Percent

Three states - Texas, Georgia and Oklahoma - accounted for 72 percent of pecan acreage.

1,000 Varieties

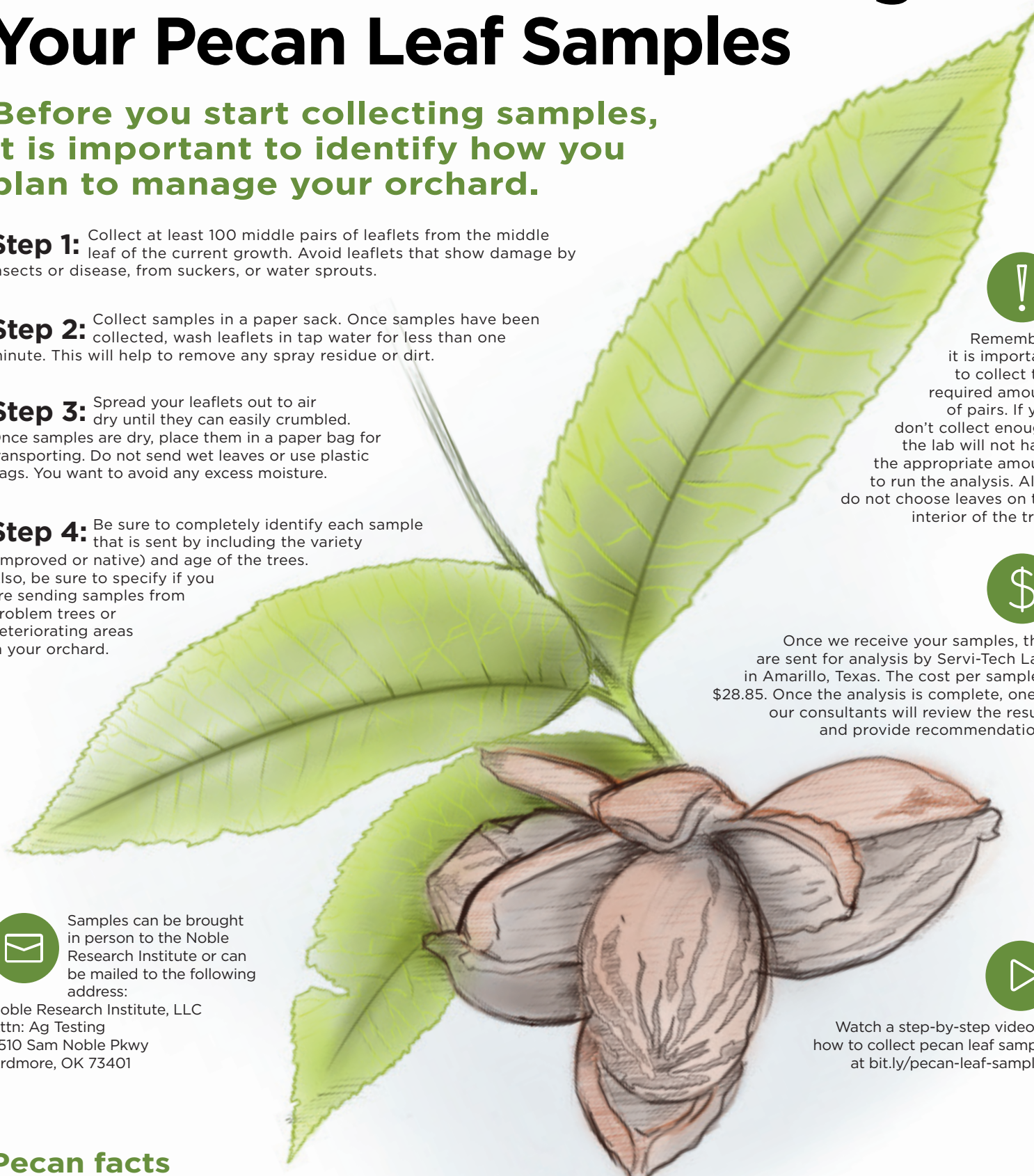
There are more than 1,000 varieties of pecans, many named for Native American Indian tribes.

263 Million

From 2005 to 2011, U.S. pecan production averaged 263 million pounds per year.

19 Vitamins & Minerals

Pecans supply more than 19 vitamins and minerals, including A, B, calcium and zinc. 🇺🇸



SOILS & CROPS

Quality Seed: The First Step to a Successful Crop

by James Locke, soils and crops consultant | jmlocke@noble.org



Starting with good quality planting seed is the first step to a successful crop. While we cannot control factors like weather and markets, we can almost always use good quality seed.

So, what are the components of quality seed?

Seed Viability

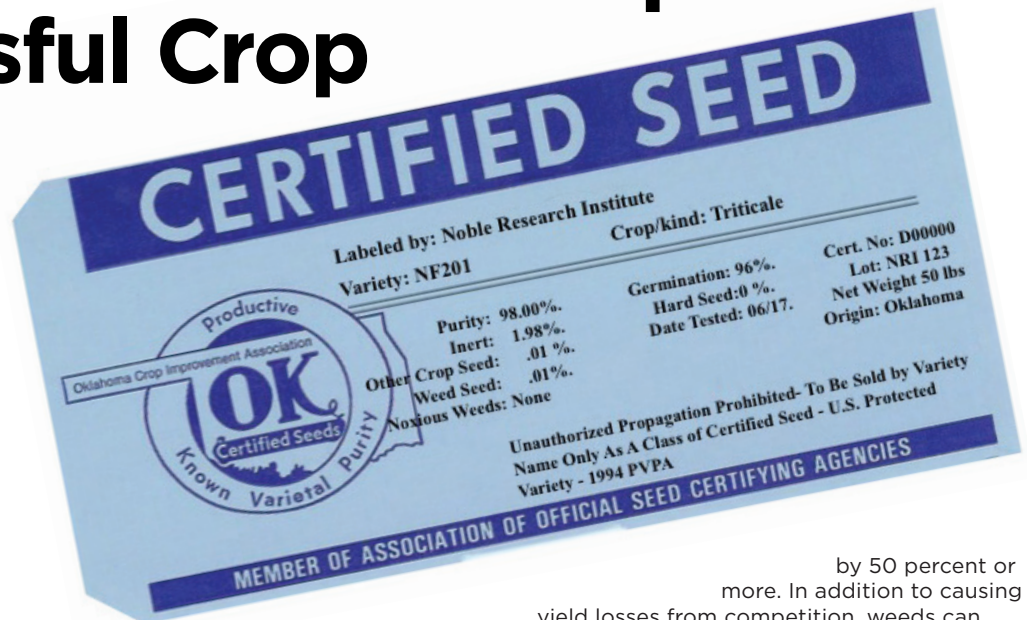
The U.S. Department of Agriculture (USDA) requires all seed sold commercially to be tested and meet minimum germination standards. Most states also have their own seed laws setting minimum requirements, and most seed companies have minimum standards for seed they will market. However, the standard germination test tells only part of the story. Standard germination tests are conducted under ideal conditions, and they do not give a good indication of how the seed may perform under challenging field conditions. Running a vigor test provides a better estimate of field performance. Types of vigor tests include accelerated aging, cold, electric conductivity and seedling vigor classification tests. Seed that has an acceptable germination percentage but low vigor may not grow well or even germinate under adverse field conditions. Vigor testing is particularly valuable for seed that has been held over, stored under unknown or unfavorable conditions, or will be planted under less-than-ideal soil or weather conditions. Additional information on seed testing and laboratory resources can be found at bit.ly/seed-testing-lab.

Varietal Purity

Variety selection is one of the most important decisions a producer makes. A number of factors must be considered when selecting varieties to plant. Regional adaptation, yield potential, end use (grazing, hay or harvest), disease and insect resistance, and herbicide tolerance traits all need to be considered. Refer to published variety trial results from unbiased sources, preferably for multiple years and from environments similar to your own, to select varieties that meet your goals. It is preferable to plant multiple varieties to spread out the risks from weather and diseases.

Seed Purity

State laws typically regulate how much and what types of weed seed and other contaminants are allowable in commercial



planting seed. Weed seed contamination is a particular problem for bin-run seed. Even when seed has been cleaned, weed seed of similar size, shape or density are often difficult to remove. When these weeds are planted with the crop, they germinate with the crop and immediately compete for space, water, nutrients and sunlight. Weed competition can potentially reduce yields

by 50 percent or more. In addition to causing yield losses from competition, weeds can reduce crop quality. Weed seed is one of the contaminants that will be docked at the elevator when grain is sold.

So, how does one make sure they are able to meet these criteria for quality seed? The easiest way is to plant certified seed. Certified seed is the progeny of breeder, foundation or registered seed classes, and has passed necessary inspections to meet state and federal seed law requirements. Additionally, using certified seed ensures compliance with the Plant Variety Protection Act (PVP). Oftentimes, producers purchase “variety not stated” seed for planting purposes. If any of this seed is from a PVP-protected variety, it is a violation. Most seed companies now aggressively pursue enforcement of their PVP rights.

A common argument against using certified seed is that it increases production costs. While that may appear true on the surface, it may not be the case if all factors are considered. Bin-run seed usually has lower germination rates, which requires increased seeding rates to obtain the same stand. Even then, seed vigor is often lower, resulting in weaker seedlings. It also may be infected with seed-borne diseases, in addition to weed seed previously mentioned.

One way to keep the advantages of certified seed while reducing out-of-pocket costs is to plant enough certified seed annually to provide your own planting seed for the next year. This works well because the genetic purity will be maintained for the first year. If seed is saved from subsequent years’ crops, the genetics will become increasingly diluted and the variety traits may not be preserved. Note that this is not an option for patented varieties or those carrying a patented gene.

Using quality planting seed is a key production factor we can control. There are so many factors that we can’t control; it makes good sense to take advantage of the ones we can.

Guidelines for Production, Storage and Use of Planting Seed

- Use good weed management practices to ensure weed seed will not be harvested with the crop seed.
- Apply fungicides to control seed-borne diseases.
- Ensure harvest equipment is clean and properly adjusted.
- Clean seed to remove weed seed and foreign material before storage.
- Store seed under good conditions, and control storage insects.
- Perform seed germination and vigor test, and adjust seeding rates as needed for saved seed.
- Apply fungicides to saved seed to control seedling diseases.

LIVESTOCK

Early Weaning Benefits First-Calf Cows, Calves

by Robert Wells, Ph.D., livestock consultant | rswells@noble.org



The southern Plains summer heat can be hard on pastures, cows and calves, especially first-calf cows. These cows are in a special class as they are still trying to maintain body condition, actively grow, support reproduction by gestating with

her second calf, and lactating. Lactation is one of the most nutritionally intensive production stages a cow goes through on an annual basis.

While the cow is trying to support all of the above physiological functions, forage quality diminishes due to grasses going into summer dormancy because of high temperatures and

The early weaned calf should be placed on a high quality, nutritionally dense ration in order for it to meet its genetic potential for growth.

lack of moisture. As a result, the nutritional quality of forage is not enough to support continued growth of either the cow or calf. Early weaning of the calf can benefit both the cow and calf in this situation.

The nutritional requirements associated with lactation will cease for the cow, and the calf can be placed on a high quality feed ration that will better support its genetic potential for growth.

Advantages of Early Weaning

Early weaning of the first-calf cow can help improve body condition score going into winter and subsequently calving season of the

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PROFILE

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second calf. Additionally, it can help improve calving rates and lower dystocia percentages of the second calf.

Once lactation ends, the nutritional requirements of the cow will drop by 15 to 20 percent. This allows the cow to use the excess nutrition (relative to what is needed for maintenance and gestation requirements) available in late summer and early fall forages for continued growth and regaining body condition before the harsh effects of winter become prevalent. This reduces the need for higher levels of supplementation during winter, which translates into a direct cost savings.

A cow that is not nutritionally deprived will have a better chance of carrying a calf to term. Additionally, if she is in adequate body condition at calving, she should have the necessary energy reserves to complete the birthing process unassisted.

The cow's body condition at calving of the second calf will dictate the cow's condition 60 to 90 days later when is trying to rebreed for the third calf. The effects of early weaning can carry over into enhanced conception rates for the third calf by ensuring the female goes into the third breeding season in adequate body condition to support pregnancy. It has been demonstrated numerous times in scientific literature that a female in a body condition of four or less will have greatly reduced conception rates and a longer interval from calving to rebreeding, which translates into a smaller, younger calf at weaning henceforth.

How to Manage Early-Weaned Calves

The early weaned calf should be placed on a high quality, nutritionally dense ration in order for it to meet its genetic potential for growth. These young calves are very efficient at converting feed to gain, which helps to economically support the decision to place them on feed at such a young age. Prior to the typical weaning date/age of a calf, the early-weaned calf can have feed conversion ratios that are equivalent to that of the pork industry: less than 5 pounds of feed per 1 pound of gain. Data indicates that British x Continental crossbred calves weaned at an average of 150 days of age and placed on a finishing ration will reach harvest weights greater than 1,250 pounds by 13 months of age and have a high percentage of animals that will grade choice or better. This equates to reduced days on feed, which saves money in the form of total feedlot yardage costs and feed resources used to produce the calf.

The combined amount of feed saved from reducing cow winter feed supplementation and the increased total days on feed for the calf still results in a lower total amount of feed needed through the system. Couple this with increased conception rates for the second and third calf, and the potential for older, heavier calves for the rest of the cow's life in the herd, and it is easy to see the advantage of early weaning calves off of first-calf cows when summer pastures become limiting in forage quality or quantity. 🐮

Producer Spotlight: Dan Ham, Managing for Wildlife



by Steven Smith, wildlife and fisheries consultant / sgsmith@noble.org



Dan Ham began working with the Noble Research Institute in March 2008 shortly after he purchased the property in Pontotoc County, Oklahoma. We helped him develop a strategy to achieve his goals of managing the property for wildlife, especially white-tailed deer, puddle ducks, largemouth bass and wild turkey.

The 600-acre property, called the

Ghost Buck Ranch, is mostly wooded with scattered openings. Many of these openings were once planted to bermudagrass, which Dan gradually converted to native plant communities dominated by grasses and forbs. *Sericea lespedeza*, an aggressive legume, was present across the property. Eastern red cedar was also widespread, ranging from less than 1 foot tall to mature trees taller than 15 feet. The property has significant changes in topography, being crossed by several steep ridges with plenty of exposed surface rock.

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After the initial visit from the agricultural consultant and attending several educational events, Dan realized he needed to open up some timbered areas, control the sericea lespedeza, and implement deer and turkey harvest restrictions. He started by securing cost-share assistance from the Oklahoma Department of Wildlife Conservation (ODWC) and the Natural Resources Conservation Service (NRCS) to help offset expenses for timber clearing and thinning, firebreak construction, and prescribed burning. Dan used these funds to chemically and mechanically treat timbered areas to create openings and thin some areas, leaving just the largest trees in those areas. Dan also created several miles of firebreaks around and through the property to facilitate the use of prescribed fire.

Dan attended several Noble Research Institute prescribed burn workshops and assisted several burn bosses with conducting burns to gain practical experience before conducting the first burn on his property. Dan has now conducted more than a dozen prescribed burns on his property as burn boss. He recently started to conduct growing season burns with great success, which has set back woody encroachment in the openings. Dan's had excellent success using prescribed fire to kill most eastern red cedars shorter than 6 feet tall. The burns also reduced the size of encroaching winged elm in the openings. Dan was recently elected vice president of the Pontotoc Ridge Prescribed Burn Association.

Dan began chemically controlling patches of sericea lespedeza shortly after taking possession. He took advantage of new sericea lespedeza growth in burned areas by spot-treating the patches. These patches were easy to locate and spray following a burn due to the lack of the previous year's vegetation. With persistent effort and good timing, Dan has almost eliminated sericea lespedeza from the property.

Dan set annual harvest limits for deer and wild turkey. Due to his strict buck and gobbler harvest limits, liberal doe harvest quotas, and good habitat management, Dan now sees more deer and turkeys on the property. He has also noted an increase in the gross Boone and Crockett size of harvested bucks.

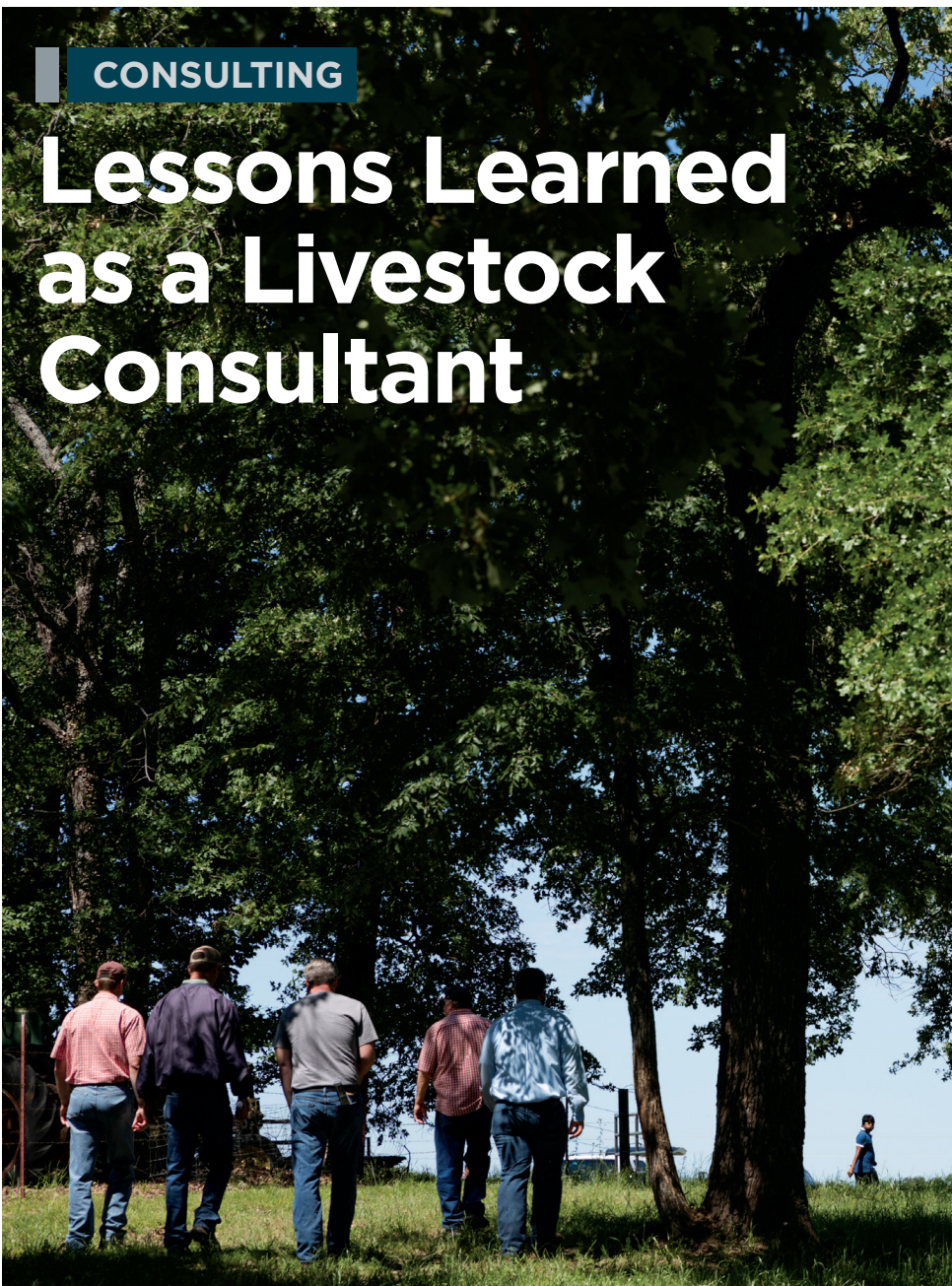
In 2012, Dan and the Ghost Buck Ranch were featured in the ODWC publication *Your Side of the Fence*. (See page 3 of bit.ly/your-side-of-the-fence.) Dan hosted a Noble Research Institute wildlife producer tour in 2013, and he has hosted numerous youth deer and turkey hunts. Dan was selected for these honors due to his hard work and the results of his management practices.

When the property was purchased, Dan and his wife were happy living in Dallas and never thought about living at the ranch full-time but over the years they began to spend more time at the ranch and now spend the majority of the year living at the ranch.

Every time Dan considers implementing a management practice, he always asks himself how it is going to make the place better for his grandkids. Everything he does on the ranch is with the goal to leave the place better than he found it. 🐾

CONSULTING

Lessons Learned as a Livestock Consultant



by Bryan Nichols, livestock consultant | bmnichols@noble.org



My tenure as a livestock consultant will draw to a close at the end of July. I'm grateful for the opportunity I've had to work at the Noble Research Institute, and I'm also grateful for the opportunity to return to

my family's farming and ranching operation. I truly feel I have learned as much or more than I've been able to share. Following is my attempt at relaying some of the most important lessons I've learned or had reinforced in this job from agricultural producers and fellow professionals.

Challenge yourself to make data-driven decisions and seek out people who will challenge your thinking. There is almost always someone who knows more than ourselves.



1. Know what you're trying to accomplish; set goals.

This gets repeated often but is critical. It is very hard to make decisions if you don't know where you're trying to go. It is impossible for anybody to help you get to an unknown destination.

2. Keep meaningful records.

Keeping records is very important, but keeping records that have no value is a waste of time and effort. Figure out the variables that are important to your operation from a production as well as financial standpoint and monitor them. It is hard to know if you are meeting your goals or building a solid budget without records from your operation.

3. Know yourself.

Know your strengths and weaknesses. Know your tolerance for risk. Don't spend time trying to make yourself something that you aren't. Find ways to use your talents to your advantage. In other words, know your comparative advantages.

4. Think in systems.

Every decision or action we take has an effect on something else. It's important to take time and evaluate a specific action's impact on other facets of the operation.

5. Cut your own fuses.

A friend shared this phrase with me not too long ago. Essentially, each of us should take the reins of our own decision-making. This doesn't mean we should not seek out advice. It means that at the end of the day, the one who signs the checks must take all factors into account, including their own risk tolerance, and make a decision they can live with.

6. Timing is everything.

I feel strongly enough about this one that I wrote an entire article about it: www.noble.org/timeliness. The most successful producers get things done when it's time to get them done.

7. Build a team.

It is impossible to be an expert in everything. Be humble enough to admit it, and put people around you who are experts in their given field.

8. Don't automatically say "That won't work here."

We have to be willing to change. That being said, I wouldn't encourage somebody to bet the farm on a drastic change the first year, either. Many times a change may not be beneficial to an operation. However, don't miss out on the one that could be a game-changer by being closed-minded.

9. Don't get too comfortable listening to your own bull.

A local veterinarian told me that he shared this with veterinary students. It's easy to become isolated and develop our own way of thinking, whether it's the truth or untested hypotheses that we convince ourselves are true. Challenge yourself to make data-driven decisions. Seek out people who will challenge your thinking. There is almost always someone who knows more than ourselves.

10. Never quit learning.

The opportunity to learn is greater now than it has ever been. Conferences, webinars, podcasts, social media, newsletters. The list goes on and on. Figure out what works for you and use it. Perhaps the biggest challenge now is being able to sort fact from fiction.

11. Do what you love.

If you don't love it, chances are you won't expend the time and energy that is necessary to be successful.

I look forward to putting these lessons into practice. One thing is for certain, there are always more lessons to come. All you can hope for is that they aren't too costly to learn. 🐮



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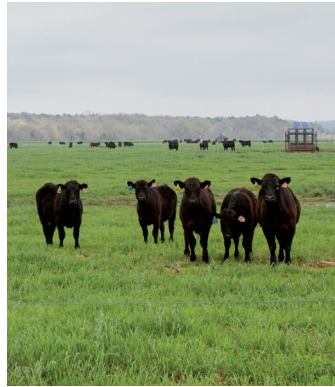
UPCOMING EVENTS

For more information or to register, please visit www.noble.org/events or call Danielle Pacifico at 580-224-6376. Preregistration is requested.



JULY | 13

Growing Season Prescribed Burn Field Day
8:30 a.m.-3 p.m.
Noble Research Institute
Coffey Ranch
Registration fee: \$20, includes lunch



AUGUST | 17

Fall Grazing Workshop
8:30 a.m.-noon
Addison Ranch 7051 Pike Rd.
Burneyville, OK 73430
No registration fee



AUGUST | 29

Fall Cattle Seminar
1-4:30 p.m.
Ardmore Convention Center
2401 N. Rockford Rd.
Ardmore, OK 73401
No registration fee



SEPTEMBER | 7

Pecan 201 Workshop
9 a.m. - 4:30 p.m.
Noble Research Institute
Kruse Auditorium
Registration Fee: \$20, includes lunch